SYSTEM AND METHOD FOR CHARACTERIZING PROGRAM

BEHAVIOR BY SAMPLING AT SELECTED PROGRAM POINTS

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ABSTRACT OF THE DISCLOSURE

A system and method for characterizing runtime behavior of a
computer program executing in an execution environment, the
10 method comprising: identifying one or more instances of yield
points in a program to be executed, each yield point indicating a
potential sampling operation during program execution; during
program execution, in response to an identified yield point
instance, ascertaining a state of the execution environment for
15 indicating whether a sampling operation is to be performed; and,
when the state of the execution environment indicates a sampling
operation, recording relevant information for characterizing
behavior of the execution environment. Relevant information for
characterizing program behavior includes frequencies of methods
20 executed in the program, and calling context associated with
methods called by the program. Different mechanisms are provided
for determining the sampling condition including the setting of a
trigger bit by a runtime system, or, determining a sampling
operations based on a fixed percentage of all executed yield
25 points taken.

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